SYSTEM ANALYSIS AND DESIGN - MSIS3303

Syllabus

1. GENERAL INFORMATION:

- Instructor's name:
  1. Nguyen Dinh Thuan Email: thuannd@uit.edu.vn
  2. Do Phuc Email: phucd@uit.edu.vn
  3. Cao Thi Nhan Email: nhanct@uit.edu.vn
- Credit: 4 (3 lectures – 1 practice)
- Prerequisite: CS5423 – PRINCIPLES OF DATABASE SYSTEMS

2. COURSE INFORMATION:

Introduction System Analysis and Design Course including an overview of information systems and the Systems Development Life Cycle (SDLC). The goal is to provide students with a clear presentation of the concepts, skills, and techniques needed to become effective systems analyst who work with the others to create information systems for businesses. The course will also intergrate other skills necessary for the systems analyst including fact finding techniques for requirements discovery, user interface design, reporting, information assurance, and project management.

3. BOOK AND MATERIALS:

Required textbook:

[1]. Gary B. Shelly, and Harry J. Rosenblatt, 2013, *Systems analysis and design*, 10th edition, United States of America.

Other materials:

[2]. Kenneth E. Kendall, and Julie E. Kendall, 2014, *Systems analysis and design*, 9th edition, Prentice Hall.

[3]. Joseph S. Valacich, Joey F. George, Jeffrey A. Hoffer, *Essentials of Systems Analysis and Design*, 6th edition, Pearson Publisher, 2014.

4. GRADING PROCEDURES:

Assignments, Group discussion, Class attendance: 20%

Computer-based testing (Project): 30%

Final Examination: 50%

5. COURSE OUTLINE:

Content
1: Introduction to Systems Analysis and Design 1.1 Overview of Information System - Information System - Information System Components - Business Process Modelling - Organisational Structure - Types of Business Information System 1.2 Overview of Systems Development - Systems Development Techniques and tools - Systems Development Methodology - Systems Development Life Cycle - Object – oriented development method - Agile method - Role of System Analyst **2: Requirements Modelling** - Systems Analysis Phase Overview - Systems Requirements Checklist: Outputs, Inputs, Process, Performance and Controls - Fact-Finding: Overview. Who, What, When, Where and How? - Fact-Finding techniques: Interview, Questionnaires and Surveys, Document Review, Observation, Sampling, Research **3: Process component analysis and design** - Data Flow Diagrams: DFD Symbols, Context Diagrams, Diagram 1, Lower-Level Diagrams, Strategies for Developing DFDs, Checking the diagrams for errors. - Logical and Physical DFDs **4: Data component analysis and design** - Entity – Relational Data Model - Convert ERD to Relational Data Model - Normalization and Data constrains **5: User interface, input and output design** - User Interface Design o Human-Computer Interaction o User-Centered Design Principles o User Interface Design guidelines o User Interface Controls - Principle of User- centered design - Designing the user interface o Design a transparent interface o Create an interface that is easy to learn and use

- Enhance user productivity
- Make it easy for users to obtain helps or correct errors
- Minimize input data problems
- Provide feedback to users
- Create an attractive layout and design
- Use Familier terms and images
- Add control features

- Input Design
  - Source Documents and Forms
  - Designing Data Entry Screens
  - Input Errors
  - Input Control
- Output Design
  - Types of Output
  - Printed Output
  - Types of Report
  - User Involvement
  - Report Design Principles
- Output Control and Security

TENTATIVE COURSE SCHEDULE:

WEEK	TOPIC	ASSIGNMENT
Week 1	Introduction to Course Chapter 1. Introduction to Systems Analysis and Design	
Week 2	Chapter 1. Introduction to Systems Analysis and Design (cont.) Chapter 2. Requirements Modelling	Homework 1
Week 3	Chapter 2. Requirements Modelling (cont.)	Homework 2
Week 4	Chapter 3. Process component analysis and design	
Week 5	Chapter 3. Process component analysis and design (cont.)	Homework 3
Week 6	Chapter 4. Data component analysis and design	
Week 7	Chapter 4. Data component analysis and design (cont.)	Homework 4

Week 8	Chapter 5. User interface, input and output design	
Week 9	Chapter 5. User interface, input and output design (cont.)	
Week 10	Project presentation	
Week 11	Overview	

6. COURSE REQUIREMENTS:

- Assignments: Exercises are given by the instructor.
- Projects: Projects are given by the instructor.
- Class attendance/participation: Evaluated by checking in the Attendance Book
- Final Examination: Based on a given business process, students analyse and design data, process and user interface.

7. ACADEMIC INTEGRITY POLICIES:

- Student may not use Vietnamese languague in class, or will be reduced 2% final marks
- Be punctual to come and leave the class.
- Maximum cancellation time per semester is 3 classes.

8. COMMENTS AND NOTES:

- Preparation for Class: It is expected that the students read related chapter in textbook and lecture noted before each class. This will help to capture the topics presented and discussed during class hours.
- Use of Class Time: Class time will be used mainly for lectures and discussions. A small part of class hours is used for testing. Homework will be discussed on both individual basis and team basis.
- Assignment Requirement: Assignments must be submited to Courses on time.

Dean, Faculty of Information Systems **Instructor**

Cao Thi Nhan